

REMARKS

Claims 1-9, 28 and 37 have been cancelled. Claims 1-9 have been cancelled because they are drawn to a non-elected invention. Claims 24-27, 29-36 and 28-42 are pending. Claim 24 has been amended to disclose a substrate comprising an array of detection electrodes and a plurality of electrical contacts. Support for the amendment to Claim 24 is found throughout the application and claims as originally filed. For example, see Figure 2, page 13, lines 22-20; page 49, line 36, through page 50, line 5.

Rejections under 35 USC § 112, second paragraph

Claims 30-40 stand rejected under 35 USC § 112, second paragraph, as indefinite for failing to particularly point out and distinctly claim the subject matter that the applicant regards as the invention. In particular, the Examiner asserts that the term “said assay complexes” in line 2 lacks sufficient antecedent basis. Applicants submit, in light of the amendment presented above, that Claims 30-40 are sufficiently definite and therefore withdrawal of this rejection is respectfully requested.

Rejections under 35 USC § 102(b)

Claims 24-26, 41 and 42 stand rejected under 35 USC § 102(b) as anticipated by US Patent No. 5,320,808 to Holen *et al.* In particular, the Examiner asserts that Holen teaches a semi-automated sample analyzer for simultaneously performing a plurality of immunoassays utilizing reaction cartridges having test cards with multiple test locations comprising capture reagents and target analytes. The test sites described in Holen are created by first adhering a binding material, such as nitrocellulose or nylon, to a nonabsorbent substrate, followed by ultrasonically creating a series of depressions (the so-called “moats”) surrounding individual test locations. Finally, capture reagents are delivered to the individual test sites where they are non-



covalently bound by the binding material and then exposed to a sample containing a target analyte.

As amended Claims 24-26, 41 and 42 disclose a method of analyzing a plurality of biochips comprising a substrate comprising: (1) an array of detection electrodes, each electrode comprising a different capture binding ligand, a different target analyte and a label; and, (2) a plurality of electrical contacts. Holen *et al.*, do not teach or disclose cartridges comprising a substrate comprising an array of detection electrodes and a plurality of electrical contacts.

For an anticipation rejection under 35 U.S.C. §102 to be proper, a single reference must expressly or inherently disclose each and every element of a claim. *In re Paulsen*, 31 USPQ2d 1671, 1673 (Fed. Cir. 1994); MPEP § 2131 (citing *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989)).

Each of the rejected claims, as currently amended, comprise a biochip comprising a substrate comprising an array of electrodes and a plurality of electrical contacts. As Holen does not disclose cartridges comprising an array of electrodes, Holen does not teach each an every element of the rejected claims. Accordingly, Holen cannot anticipate the rejected claims and withdrawal of the rejection under 35 U.S.C. § 102 is respectfully requested.

Rejections under 35 USC § 103(a)

Claims 27-29 stand rejected under 35 USC § 103(a) as unpatentable over Holen. The Examiner asserts that while Holen does not specifically teach the incorporation of a plurality of detectors, it would have been *prima facie* obvious to merely duplicate disclosed parts to achieve the claimed invention. Claim 28 has been cancelled, hence the rejection is moot as applied to claim 28. Applicants respectfully traverse this rejection as applied to claims 27 and 29.

Dependent claims 27 and 29 depend from amended claim 24, and thus disclose a method of analyzing a plurality of biochips comprising a substrate comprising: (1) an array of detection electrodes, each electrode comprising a different capture binding ligand, a different target analyte and a label; and (2) a plurality of electrical contacts and a detector. The label can be detected using an electronic detector. As discussed above, Holen *et al.* do not teach or a method for analyzing a plurality of biochips in which the biochips comprise a substrate comprising an array of detection electrodes and a plurality of electrical contacts.

When rejecting claims under 35 U.S.C. §103, the Examiner bears the burden of establishing a *prima facie* case of obviousness. *See, e.g., In re Bell* 26 USPQ2d 1529 (Fed. Cir. 1993); M.P.E.P. Section 2142. In making a *prima facie* case, the cited references must teach or suggest each limitation of the rejected claims. *Id.* As pointed out above, Holen fails to teach or suggest a method of analyzing a plurality of biochips comprising a substrate comprising (1) an array of detection electrodes, each electrode comprising a different capture binding ligand, a different target analyte and a label; and (2) a plurality of electrical contacts, that can be detected using an electronic detector. Accordingly, Applicants respectfully submit that the Examiner has failed to establish a *prima facie* case of obviousness and request that the rejection of Claims 27 and 29 under 35 U.S.C. §103(a) be withdrawn.

Claims 30, 31, 33, and 37 stand rejected under 35 USC § 103(a) as unpatentable over Holen in view of Kearney (U.S. Pat. No. 5,759,777). In particular, the Examiner asserts that while Holen does not specifically teach the use of nucleic acids as capture reagents, it can be combined with the disclosure of Kearney which does teach the use of nucleic acids as capture reagents. Claim 37 has been cancelled and hence the rejection is moot as applied to claim 37. Applicants respectfully traverse this rejection as applied to claims 30, 31 and 33.

Holen has been discussed above.

As noted by the Examiner, Kearney teaches the use of nucleic acid hybridization assays for the detection of target analytes. However there is no teaching or suggestion in Kearney of a method of analyzing a plurality of biochips comprising a substrate comprising (1) an array of detection electrodes, each electrode comprising a different capture binding ligand, a different target analyte and a label; and (2) a plurality of electrical contacts, that can be detected using an electronic detector.

As discussed above, when rejecting claims under 35 U.S.C. §103, the Examiner bears the burden of establishing that the cited references teach or suggest each limitation of the rejected claims. This deficiency is not overcome by combining the teachings of Kearney with the teachings of Holen. Applicants respectfully submit that the Examiner has failed to establish a *prima facie* case of obviousness and request that the rejection of Claims 30, 31 and 33 under 35 U.S.C. §103(a) be withdrawn.

Claim 32 stands rejected under 35 USC § 103(a) as unpatentable over Holen in view of Kearney and further in view of Yabusaki (U.S. Pat. No. 4,599,303). In particular, the Examiner asserts that while Holen and Kearney do not specifically teach the use of targets having covalently attached labels, they can be combined with the disclosure of Yabusaki to teach the use of targets having covalently attached labels. Applicants respectfully traverse this rejection.

As discussed above, when rejecting claims under 35 U.S.C. §103, the Examiner bears the burden of establishing that the cited references teach or suggest each limitation of the rejected claims. Neither Holen or Kearney teach or suggest a method a method of analyzing a plurality of biochips comprising a substrate comprising (1) an array of detection electrodes, each electrode comprising a different capture binding ligand, a different target analyte and a label; and (2) a

plurality of electrical contacts, that can be detected using an electronic detector. This deficiency is not overcome by combining the teachings of Yabusaki with the teachings of Kearney and Holen. Applicants respectfully submit that the Examiner has failed to establish a *prima facie* case of obviousness and request that the rejection of Claim 32 under 35 U.S.C. §103(a) be withdrawn.

Claim 34 stands rejected under 35 USC § 103(a) as unpatentable over Holen in view of Kearney and further in view of Batz (U.S. Patent No.6,117,973). In particular, the Examiner asserts that while Holen and Kearney do not specifically teach the use of intercalators, they can be combined with the disclosure of Batz to teach the use of intercalators as probes or labels in hybridization assays. Applicants respectfully traverse this rejection.

As discussed above, when rejecting claims under 35 U.S.C. §103, the Examiner bears the burden of establishing that the cited references teach or suggest each limitation of the rejected claims. Neither Holen or Kearney teach or suggest a method of analyzing a plurality of biochips comprising a substrate comprising (1) an array of detection electrodes, each electrode comprising a different capture binding ligand, a different target analyte and a label; and (2) a plurality of electrical contacts, that can be detected using an electronic detector. This deficiency is not overcome by combining the teachings of Batz with the teachings of Kearney and Holen. Applicants respectfully submit that the Examiner has failed to establish a *prima facie* case of obviousness and request that the rejection of Claim 34 under 35 U.S.C. §103(a) be withdrawn.

Claims 35, 36, 38, and 39 stand rejected under 35 USC § 103(a) as unpatentable over Holen in view of Kearney and further in view of Meade (U.S. Patent No. 5,780,234). In particular, the Examiner asserts that while Holen and Kearney do not specifically teach the use of

electron transfer moieties as labels, they can be combined with the disclosure of Meade to teach such labels. Applicants respectfully traverse this rejection.

As discussed above, when rejecting claims under 35 U.S.C. §103, the Examiner bears the burden of establishing that the cited references teach or suggest each limitation of the rejected claims. Neither Holen or Kearney teach or suggest a method of analyzing a plurality of biochips comprising a substrate comprising (1) an array of detection electrodes, each electrode comprising a different capture binding ligand, a different target analyte and a label; and (2) a plurality of electrical contacts, that can be detected using an electronic detector. This deficiency is not overcome by combining the teachings of Meade with the teachings of Kearney and Holen. Applicants respectfully submit that the Examiner has failed to establish a *prima facie* case of obviousness and request that the rejection of Claims 35, 36, 38, and 39 under 35 U.S.C. §103(a) be withdrawn.

Claim 40 stands rejected under 35 USC § 103(a) as unpatentable over Holen in view of Kearney and Meade further in view of Grinstaff (U.S. Patent No.6,288,221). In particular, the Examiner asserts that while Holen, Kearney, and Meade do not specifically teach the use of metallocenes, they can be combined with Grinstaff to teach metallocene labels. Applicants respectfully traverse this rejection.

As discussed above, when rejecting claims under 35 U.S.C. §103, the Examiner bears the burden of establishing that the cited references teach or suggest each limitation of the rejected claims. Holen, Kearney, or Meade do not teach or suggest a method a method of analyzing a plurality of biochips comprising a substrate comprising (1) an array of detection electrodes, each electrode comprising a different capture binding ligand, a different target analyte and a label; and (2) a plurality of electrical contacts, that can be detected using an electronic detector. This

deficiency is not overcome by combining the teachings of Grinstaff with the teachings of Kearney, Meade, and Holen. Applicants respectfully submit that the Examiner has failed to establish a *prima facie* case of obviousness and request that the rejection of Claim 40 under 35 U.S.C. §103(a) be withdrawn.

If after review, the Examiner feels there are further unresolved issues, the Examiner is invited to call the undersigned at (415) 781-1989.

Respectfully submitted,

DORSEY & WHITNEY LLP

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By: 

Dorsey & Whitney LLP

Four Embarcadero Center
Suite 3400
San Francisco, California 94111-4187
Telephone: (415) 781-1989
Fax No. (415) 398-3249

Renee M. Kossiak, Reg. No 47,717
for Robin M. Silva, Reg. No. 38,304
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